CURRICULUM VITAE

January 27, 2022

JAE HONG PARK, Ph.D., C.I.H.
Assistant Professor of Health Sciences
School of Health Sciences, Purdue University
550 Stadium Mall Drive 1263B, West Lafayette, IN 47907
Phone: 765-494-8373
e-mail: park895@purdue.edu
ORCID: 0000-0003-0772-0433
Google Scholar (Link)

Educational Background

2005-2010	Doctor of Philosophy, Mechanical Engineering, Department of Mechanical Engineering, Yonsei University, Seoul, South Korea
2003-2005	Master of Science, Mechanical Engineering, Department of Mechanical Engineering, Yonsei University, Seoul, South Korea
1999-2003	Bachelor of Science, Mechanical Engineering, Department of Mechanical Engineering, Yonsei University, Seoul, South Korea

Academic Appointments

2016-present	Assistant Professor, School of Health Sciences, Purdue University, West Lafayette, IN
2016-2016	Research Associate, Department of Occupational and Environmental Health, University of Iowa, Iowa City, IA
2011-2016	Postdoctoral Research Scholar, Department of Occupational and Environmental Health, University of Iowa, Iowa City, IA
2010-2011	Postdoctoral Researcher, Department of Mechanical Engineering, Yonsei University, Seoul, South Korea

Other Experience and Professional Memberships

2021-2022	Secretary, American Industrial Hygiene Association (AIHA) - Aerosol Technology Committee
2019-present	Member, Greater Lafayette Area Safety Council (GLASC)
2018-present	Member, University of Cincinnati Education and Research Center (ERC) Steering Committee
2018-present	Member, American Industrial Hygiene Association (AIHA) - Aerosol Technology Committee
2021-present	Secretary, American Industrial Hygiene Association (AIHA) - Aerosol Technology Committee
2017-present	Member, American Association for Aerosol Research (AAAR)
2017-present	Member, American Industrial Hygiene Association (AIHA) - Indiana Local Section
2017-present	Member, American Industrial Hygiene Association (AIHA)
2015-present	Member, International Society of Exposure Science (ISES)

Licenses Registrations, and Certifications

2018-present Certified Industrial Hygienist (CIH: 11694CP), American Board of Industrial Hygiene

Publications (selected from 63 papers)

1. Liao, L.[2], Byeon, J.H.*, **Park, J.H.*** (2021) Development of a size-selective sampler combined with an adenosine triphosphate bioluminescence assay for the rapid measurement of bioaerosols, *Environmental Research*, Vol. 194, 110615 https://doi.org/10.1016/j.envres.2020.110615
2. Sharma, D., Campiti, V.J., Ye, M.J., Saltagi, M., Carroll, A.E., Ting, J.Y., Illing, E.A., **Park, J.H.**, Nelson, R.F., Burgin, S.J.* (2021) Aerosol generation during cadaveric simulation of otologic surgery and live cochlear implantation, *Laryngoscope Investigative Otolaryngology*, Vol. 6(1), 129–136 http://doi.org/10.1002/lio2.506
3. Sharma, D.*, Campiti, V.J., Ye, M.J., Rubel, K.E., Higgins, T.S., Wu, A.W., Shipchandler, T.Z., Burgin, S.J., Sim, M.W., Illing, E.A., **Park, J.H.**, Ting, J.Y. (2021) Aerosol generation during routine rhinologic surgeries and in-office procedures, *Laryngoscope Investigative Otolaryngology*, Vol. 6(1), 49-57 *http://doi.org/10.1002/lio2.520*
4. Sharma, D.*, Ye, M.J.*, Campiti, V.J., Rubel, K.E., Higgins, T.S., Wu, A.W., Shipchandler, T.Z., Sim, M.W., Burgin, S.J., Illing, E.A., **Park, J.H.**, Ting, J.Y. (2021) Mitigation of aerosols generated during rhinologic surgery: A pandemic-era cadaveric simulation, *Otolaryngology-Head and Neck Surgery*, Vol. 164(2), 433–442 https://doi.org/10.1177/0194599820951169
5. Ye, M.J.*, Sharma, D., Campiti, V.J., Rubel, K.E., Burgin, S.J., Illing, E.A., Ting, J.Y., **Park, J.H.**, Johnson, J.D., Vernon, D.J., Lee, H.B., Nesemeier, B.R., Shipchandler, T.Z. (2021) Aerosol and droplet generation from mandible and midface fixation: Surgical risk in the pandemic era, *American Journal of Otolaryngology*, Vol. 42(1), 102829 http://doi.org/10.1016/j.amjoto.2020.102829
6. Boles, C.*, Brown, G., **Park, J.H.**, Nonnenmann, M. (2020) The optimization of methods for the collection of aerosolized murine norovirus, *Food and Environmental Virology*, Vol. 12(3), 199-208 https://doi.org/10.1007/s12560-020-09430-4
7. McCollom, T.I.S., Stebounova, L.V., **Park, J.H.**, Grassian, V.H., Gonzalez-Pech, N.I., Peters, T.M.* (2019) Design and evaluation of a high-flowrate nanoparticle respiratory deposition (NRD) sampler, *Journal of Aerosol Science*, Vol. 134, 72-79 https://doi.org/10.1016/j.jaerosci.2019.04.019
8. Wilson, M.D.[4], Prasad, K.A.[1], Kim, J.S., **Park, J.H.*** (2019) Characteristics of metallic nanoparticles emitted from heated Kanthal e-cigarette coils, *Journal of Nanoparticle Research*, Vol. 21(7), 156 https://doi.org/10.1007/s11051-019-4598-y
9. Gonzalez-Pech, N.I., Stebounova, L.V., Ustunol, I.B., **Park, J.H.**, Anthony, T.R., Peters, T.M., Grassian, V.H.* (2019) Size, composition, morphology and health implications of airborne incidental metal-containing nanoparticles, *Journal of Occupational and Environmental Hygiene*, Vol. 16(6), 387-399 https://doi.org/10.1080/15459624.2018.1559925

10. Kim, H.R., An, S., Hwang, J.*, **Park, J.H.***, Byeon, J.H.* (2019) In situ lysis droplet supply to efficiently extract ATP from dust particles for near-real-time bioaerosol monitoring, *Journal of Hazardous Materials*, Vol. 369, 684-690
    https://doi.org/10.1016/j.jhazmat.2019.02.088
11. Cai, C., Thomas, G.W., Yang, T., **Park, J.H.**, Gogineni, S.P., Peters, T.M.* (2018) Development of a portable aerosol collector and spectrometer (PACS), *Aerosol Science and Technology*, Vol. 52(12), 1351-1369
    https://doi.org/10.1080/02786826.2018.1524985
12. Stebounova, L.V., Gonzalez-Pech, N.I., **Park, J.H.**, Anthony, T.R., Grassian, V.H., Peters, T.M.* (2018) Particle concentrations in occupational settings measured with a nanoparticle respiratory deposition (NRD) sampler, *Annals of Work Exposures and Health, Vol*. 62(6), 699-710
    https://doi.org/10.1093/annweh/wxy033

More details in https://scholar.google.com/citations?user=PEbrGckAAAAJ&hl=en

Research Grants and Awards

1. National Science Foundation
   Development of an Airborne Pathogen Capture and Detection System
   01/15/2021 – 12/31/2023
   Amount: $280,674
   Role: Co-Principal Investigator
2. PHS-NIH National Institute of Environmental Health Science
   R25ES033045
   Distance education and training on emerging contaminants and technologies (DETECT)
   09/21/2021 – 09/20/2026 (five (5) years)
   Amount: $244,800
   Role: Co-Investigator
3. International Manganese Institute
   Exposure to metal mixtures in welding fumes
   09/01/2021 – 08/31/2023 (two (2) years)
   Amount: $45,566
   Role: Co-Investigator
4. University of Michigan Education & Research Center
   Pilot Research Program
   Toxicity assessment of welding fume metal nanoparticle components
   07/01/2021 – 06/30/2022 (one (1) year)
   Amount: $20,000
   Role: Co-Investigator
5. National Institute of Health/National Institute of Environmental Health Sciences
   R01ES032478

Neuroimaging of manganese toxicity
04/07/2021 – 01/31/2026 (five (5) years)
Amount: $2,796,677
Role: Co-Investigator

6. Grayson-jockey club research foundation, Inc.
   The effect of omega-3 fatty acid supplementation in Thoroughbred racehorses with equine asthma
   04/01/2021 – 03/31/2023 (two (2) years)
   Amount: $210,016
   Role: Co-Investigator
7. Purdue University, The Office of the Provost
   Instructional Equipment Program
   Field Portable XRF for occupational and environmental health sciences
   02/01/2021 – 1/31/2022 (one (1) year)
   Amount: $38,430
   Role: Multi-Principal Investigator
8. University of Michigan Education & Research Center
   Pilot Research Program
   Development of a sampler for the rapid and convenient detection of airborne pathogens
   07/01/2020 – 06/31/2021 (one (1) year)
   Amount: $20,000
   Role: Principal Investigator
9. Indiana Clinical and Translational Sciences Institute (CTSI)
   OVCR COVID-19 Rapid Response Grant application
   Investigating the presence of the porcine coronavirus as a proxy of SARS-2 in surgical smoke during open and laparoscopic surgery: A pilot project
   06/01/2020 – 05/31/2021 (one (1) year)
   Amount: $14,998
   Role: Co-Investigator
10. Purdue Research Foundation
    Summer Faculty grant
    Development of a method for collection and detection of airborne pathogens
    05/10/2020 – 09/14/2020 (four (4) months)
    Amount: $10,400
    Role: Principal Investigator
11. Embiome Co. Ltd.
    Development of a simulation model to predict lifetime of cabin air filter based on environmental and operational conditions
    12/01/2019 – 11/20/2020 (one (1) year)
    Amount: $10,000
    Role: Principal Investigator

12. University of Michigan Education & Research Center
    Pilot Research Program
    Nano particulates in welding fumes and manganese deposition in the human brain: Does size matter?
    07/01/2019 – 12/31/2020 (one (1) year)
    Amount: $20,000
    Role: Principal Investigator
13. University of Cincinnati Education & Research Center
    Pilot Research Project (PRP)
    Assessing volunteer workers' exposure to dust, metals, and bioaerosols during equine assisted activities/therapies: an exploratory study.
    07/01/2019 – 12/31/2020 (one (1) year)
    Amount: $4,250
    Role: Co-Investigator
14. SKC Inc.
    Industrial Hygiene Degree Program Equipment Grant
    2019 (one (1) time)
    Amount: Awarded industrial hygiene equipment and materials (equivalent to >$6,000)
    Role: Principal Investigator
15. Boehringer Ingelheim Vetmedica, Inc.
    Advancement in Equine Research Award Program
    Role of dietary pro-resolving lipid mediators in equine asthma
    01/01/2019 – 12/31/2019 (one (1) year)
    Amount: $15,000
    Role: Co-Investigator
16. International Manganese Institute
    Can toenail Mn levels predict brain Mn levels?
    09/01/2018 – 08/31/2021 (one (1) year)
    Amount: $29,286
    Role: Co-Investigator
17. Grayson-jockey club research foundation, Inc.
    Effects of low-dust forage on racehorses' lung health
    04/01/2018 – 03/31/2020 (two (2) years)
    Amount: $126,457
    Role: Co-Investigator
18. National Institute for Occupational Safety and Health
    T03OH008615
    Occupational safety and health training grant
    07/01/2017 – 06/30/2022 (five (5) years)
    Amount: $750,000
    Role: Co-Investigator

19. Executive Vice President for Research and Partnerships
    Purdue Core Facility Research Equipment Program
    Acquisition of a MARS6 microwave digestion system
    07/01/2017 – 06/30/2018 (one (1) year)
    Amount: $29,425
    Role: Multi-Principal Investigator
20. WorkSafeBC
    Innovation at Work Grant
    An *In vitro* toxicological approach to assess occupational health risks of nanoparticles
    01/01/2017 – 12/31/2017 (one (1) year)
    Amount: $50,000
    Role: Co-Investigator
21. Heartland Center for Occupational Health & Safety at University of Iowa
    Pilot grant
    Portable device to verify calibration of aerosol direct reading instruments
    07/01/2014 – 06/31/2015 (one (1) year)
    Amount: $20,000
    Role: Principal Investigator
22. Environmental Health Sciences Research Center at the University of Iowa
    NIH P30 ES005605 Pilot grant
    In vitro toxicological evaluation of nanoscale metal fumes
    05/01/2012 – 03/31/2013 (one (1) year)
    Amount: $60,000
    Role: Principal Investigator

Patents (selected from 4 U.S. and 39 Korean patents)

1. (U.S. patent) Personal sampler combined with ATP bioluminescence method for rapid quantification of bioaerosols, Appl. No. 16/558,361, Pub. No. US 2020/0110008 A1 (Apr 09, 2020)
2. (Korean patent) Electrostatic force regenerative filter, 10-2020-0085274 (20200710)
3. (Korean patent) Mobile isolation facility, 10-2019-0095300 (20190806)
4. (Korean patent) Heating element, atomizer comprising the same, cartridge comprising the same and electronic cigarette comprising the same, 10-2019-0018585 (20190218)
5. (Korean patent) Heating element, atomizer comprising the same and electronic cigarette comprising the same, 10-2019-0018109 (20190215)

More details in https://www.purdue.edu/hhs/hsci/aerosol/research/patents.php

Reports and Book Chapters

1. Spark Ablation: Building Blocks for Nanotechnology (2019) Schmidt-Ott, A. (Ed.), New York: Jenny Stanford Publishing, https://doi.org/10.1201/9780367817091 Poudel, B.K., Hwang, J., **Park., J.H.**, Byeon, J.H., Chapter 13. Spark Ablation for Biomedical Application

Invited Lectures

1. "Aerosol research" Presentation at HSCI Undergraduate Honors Seminar. West Lafayette, Indiana, USA, September 29, 2020
2. "Aerosol instruments" Lab Session at Department of Otolaryngology–Head and Neck Surgery, Indiana University–Purdue University Indianapolis, Indianapolis, Indiana, USA, May 19, 2020
3. "Generation and sampling of nanoparticles aerosols for industrial hygiene and toxicological purposes" Presentation at Purdue University Center for the Environment (C4E), West Lafayette, Indiana, March 20, 2018
4. "Size-selective aerosol samplers for exposure assessment" Presentation at HSCI Undergraduate Honors Seminar, West Lafayette, Indiana, USA, November 14, 2017
5. "Generation and sampling of nanoparticle aerosols for industrial hygiene and toxicological purposes" Presentation at HSCI Research Seminar Series, September 19, 2017
6. "Generation of aerosol contaminants" Presentation at HSCI Undergraduate Honors Seminar, West Lafayette, Indiana, USA, October 25, 2016
7. "Sparking innovation in aerosol research for industrial hygiene and toxicological purposes" Presentation at HSCI Research Seminar Series, September 20, 2016

Media Interview

1. Purdue HHS researchers collaborate with Wabash National for healthier workers
   Purdue HHS News, 10.11, 2021
   https://www.purdue.edu/hhs/news/2021/10/purdue-hhs-researchers-collaborate-with-wabash-national-for-healthier-workers/
2. Purdue Health Sciences researchers develop bioaerosol sampler for faster, more accurate virus and bacteria detection
   Purdue HHS News, 07.09, 2021
   https://www.purdue.edu/hhs/news/2021/07/purdue-health-sciences-researchers-develop-bioaerosol-sampler-for-faster-more-accurate-virus-and-bacteria-detection/
3. Otolaryngologists at IU research exposure risk of droplets and aerosols in clinical procedures during COVID-19
   IU School of Medicine, Office of Strategic Communications, 04.07, 2021
   https://medicine.iu.edu/blogs/research-updates/Otolaryngologists-at-IU-research-exposure-risk-of-droplets-and-aerosols-in-clinical-procedures-during-COVID-19?_ga=2.13079927.1716793746.1642771971-215402721.1642771971
4. How do coughs spread COVID-19?
   Purdue Exponent, 07.23, 2020

https://www.purdueexponent.org/campus/article_3aeba5a4-cd21-11ea-9b8f-63b3725d7099.html

Conference Presentations (selected from 71 presentations)

1. Bobo, T., Prasad, K.A., Theis, M.A., Snyder, S., Lee, J.H., Lee, C.G., Liu, S., Dydak, U., Park, J.H., Assessment of workplace exposure to metallic nanoparticles produced during metal inert gas welding using nanoparticle respiratory deposition sampler, American Industrial Hygiene Conference and Exposition (AIHce), Virtual, 05.24-05.26, 2021
2. Liao, L., Byeon, J.H., Park, J.H., Personal bioaerosol sampler combined with adenosine triphosphate bioluminescence assay, Indoor Air, Virtual, 11.01-11.05, 2020
3. Liao, L., Byeon, J.H., Park, J.H., Development of a sampler combined with adenosine triphosphate bioluminescence assay for the rapid measurement of bioaerosols, American Association for Aerosol Research (AAAR) 38th Annual Conference, Virtual, 10.05-10.09, 2020
4. Prasad, K.A., Wilson, M.D., Byeon, J.H., Park, J.H., Characterization of nanoparticles emitted from metallic heaters in electronic cigarettes, American Association for Aerosol Research (AAAR) 38th Annual Conference, Virtual, 10.05-10.09, 2020
5. Liao, L., Byeon, J.H., Park, J.H., Development of a sampler combined with adenosine triphosphate bioluminescence assay for the rapid measurement of bioaerosols, International Society for Exposure Science (ISES) 30th Annual meeting, Virtual, 09.21-09.22, 2020
6. Prasad, K.A., Theis, M., Byeon, J.H., Park, J.H., Characterization of iron and manganese nanoparticles in the spark discharge system to simulate welding fumes, International Society for Exposure Science (ISES) 30th Annual meeting, Virtual, 09.21-09.22, 2020
7. Liao, L., Byeon, J.H., Park, J.H., Size-selective bioaerosol sampler combined with an adenosine triphosphate (ATP) bioluminescence assay, American Industrial Hygiene Conference and Exposition (AIHce), Virtual, 06.01-06.03, 2020
8. Theis, M., Prasad, K.A., Park, J.H., Characterization of nanoparticles produced from a spark discharge system with manganese and iron alloy electrodes, American Industrial Hygiene Conference and Exposition (AIHce), Virtual, 06.01-06.03, 2020
9. Prasad, K.A., Theis, M., Bobo, T., Snyder, S., Liu, S., Dydak, U., Park, J.H., Sampling and monitoring of particles in metal inert gas (MIG) welding fumes, American Industrial Hygiene Conference and Exposition (AIHce), Virtual, 06.01-06.03, 2020 [Best Student Poster from AIHA Oil and Gas Working Group]
10. Park, J.H., Theis, M., Byeon, J.H., Instrumentation and methodologies to study nanoparticle exposures in a controlled laboratory setting, in symposium: Occupational metal exposures and consequences: the contribution of nano-sized particles, International Society for Trace Element Research in Humans, Annual Meeting, Bali, Indonesia, 09.22-09.26, 2019

More details in https://www.purdue.edu/hhs/hsci/aerosol/research/natintconferences.php

Courses Taught as Principal Instructor/Instructor of Record

Course	Title	Term(s)
HSCI 34500-001	Introduction to Occupational and Environmental Health Sciences	F/17, F/18, F/19
HSCI 34600-001	Indus Hygiene Engineering Control	S/20, S22
HSCI 39000-003	Indus Hygiene Instrumental Techniques	S/18
HSCI 39000-004	Indus Hygiene Engineering Control	S/18
HSCI 39000-006	Bioaerosol Sampling	S/19
HSCI 39000-012	IH Undergraduate Research	F/20
HSCI 44600-001	Applied Industrial Hygiene	F/20
HSCI 49000-051	Occupational and Environmental Health Research Project	F/18
HSCI 49000-094	Research in Occupational Health	S/19
HSCI 49000-098	OEHS Research Project	S/20
HSCI 54600-001	Advanced Indus Hygiene Engineering Control	S/22
HSCI 54601-001	Advanced Indus Hygiene Engineering Control Project	S/22
HSCI 55200-001	Introduction to Aerosol Science	S/18, S/19, S20, F21
HSCI 59000-010	Indus Hygiene Engineering Control	S/20
HSCI 59000-013	Advanced Control Technology	S/17
HSCI 59000-029	Occupational Safety Management	F/19

Guest Lecturer in University Courses

Course	Title	Term(s) (# Lecture(s))
HSCI 19501-H05	School of Health Sciences Freshman Honors Seminar	F/16 (1), F/17 (1), F20 (1)
HSCI 34500-001	Introduction to Occupational and Environmental Health Sciences	F/20 (4), F/22 (4)
HSCI 34600-002	Industrial Hygiene Engineering Control	S/17 (2), S/19 (2)
HSCI 34800-001	Industrial Hygiene Instrumentation Techniques	S/20 (1)
HSCI 57500-002	Introduction to Environmental Health	S/19 (1)
HSCI 59000-010	Industrial Hygiene Engineering Control	S/19 (2)
HSCI 59000-011	Industrial Hygiene Instrumentation Techniques	S/20 (1)
HSCI 69600-001	Seminar in Health Sciences	F/16 (1), F/17(1)

Graduate Student Supervision as a Major Professor

Name	*Date*	*Degree*	*Specialization*	*Graduated*
Chang Geun Lee	2021-present	Ph.D.	OEHS	
Li Liao	2018-present	Ph.D.	OEHS	12/2021
Johnathan Klicker-Wiechmann				

Tyler Bobo	2019-present	M.S.	OEHS	05/2021
Mishael Theis	2018-present	M.S.	OEHS	05/2020

Graduate Student Supervision as Member of Advisory Committee

Name	*Date*	*Degree*	*Specialization*	*Graduate Advisor*	*Graduated*
Jung Hyun Lee	2020-	Ph.D.	OEHS	Sa Liu	
Li Xia	2020-	Ph.D.	Toxicology	Jonathan Shannahan	
Jun Ho Kim	2020-2021	M.S.	Civil Engineering	Brandon Boor	12/2021
Joshua C. Brwon	2019-	M.S.	OEHS	Sa Liu	
Jane N. Muriuki	2019-	M.S.	OEHS	Ellen Wells	
Dillon C. Dishon	2019-2021	M.S.	OEHS	Ellen Wells	12/2021
Hamed Asadi	2019-2021	Ph.D.	Industrial Engineering	Denny Yu	12/2021
Carla J. Olave	2017-2020	Ph.D.	Veterinary Clinical Sci.	Laurent Couëtil	05/2020

Mentoring of Undergraduate Research

Name	*Date*	*Project*
Anthony William-George Bovenschen	Spring 2021 – present	• Develop the impactor to collect airborne viruses
Nicholas Anthony Pecoraro	Spring 2021 – present	• Evaluate the collection efficiencies of various sampling media used in the bioaerosol sampler
Wendi Yuan	Fall 2020	• Evaluate the surface hygiene in classrooms
Ryan Ku	Spring 2019	• Comparison of bioaerosol generation systems
Alec M. Graff	Fall 2018 – Spring 2019	• Evaluation of a vibrating mesh nebulizer as a safer electronic nicotine delivery system
Johnathan Klicker-Wiechmann	Summer 2018 Spring 2021	1) Test of bioaerosol samplers 2) Covid-19 prevention
Kaushal A. Prasad	Fall 2017 – Spring 2021	1) Development of e-cigarette generation system 2) Characterization of metallic nanoparticles from a spark discharge system 3) Assessment of exposure to manganese in welding fumes 4) Evaluating the particle collection efficiency of dried and reused breathing system filters

University Committee Memberships

2021-2022

- Chair, School of Health Sciences Safety Committee
- Member, School of Health Sciences Nominations and Awards Committee
- Member, Purdue University Chemical and Laboratory Safety Committee
- Member, Faculty Search Committee for Total Worker Health

2020-2021

- Chair, School of Health Sciences Safety Committee
- Member, School of Health Sciences Nominations and Awards Committee
- Member, Purdue University Chemical and Laboratory Safety Committee

2019-2020

- Member, School of Health Sciences Undergraduate Curriculum Committee
- Member, School of Health Sciences Safety Committee
- Member, Purdue University Chemical and Laboratory Safety Committee

2018-2019

- Member, School of Health Sciences Graduate Committee
- Member, School of Health Sciences Safety Committee
- Member, Purdue University Chemical and Laboratory Safety Committee

2017-2018

- Member, School of Health Sciences Graduate Committee
- Member, School of Health Sciences Safety Committee
- Member, Purdue University Chemical and Laboratory Safety Committee

2016-2017

- Member, School of Health Sciences Graduate Committee